UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

IN RE: DA VINCI SURGICAL ROBOT ANTITRUST LITIGATION,	Lead Case No.: 3:21-cv-03825-VC
THIS DOCUMENT RELATES TO: ALL CASES	
SURGICAL INSTRUMENT SERVICE COMPANY, INC., Plaintiff, vs. INTUITIVE SURGICAL, INC., Defendant.	Case No. 3:21-cv-03496-VC

HIGHLY CONFIDENTIAL - ATTORNEYS EYES ONLY

REMOTE PROCEEDINGS OF THE VIDEOTAPED DEPOSITION OF
GRANT DUQUE, IN HIS PERSONAL CAPACITY
TUESDAY, NOVEMBER 8, 2022

REPORTED BY NANCY J. MARTIN
CSR. NO. 9504, RMR, RPR
PAGES 1 - 178

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Tuesday, November 8, 2022

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Videotaped Remote Deposition of GRANT DUQUE, beginning at 9:04 A.M., before Nancy J. Martin, a Registered Merit Reporter, Certified Shorthand Reporter. All parties appeared remotely.

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I N D E X

E X H I B I T S

E X H I B I T S

NUMBER	DESCRIPTION	PAGE
Exhibit 258	E-mail chain dated 7-12-19	129
Exhibit 259	(Skipped.)	
Exhibit 260	E-mail chain dated 4-27-17	134
Exhibit 261	(Skipped.)	
Exhibit 262	(Skipped.)	
Exhibit 263	E-mail chain dated 9-24-18	150

Q. And approximately what period did you work as a design engineer prior to product launch on Gen 2 or S instruments?

A. Sorry. Can you rephrase that or repeat that question, please.

Q. Sure. We discussed before that there was a period of time as a design engineer where you may work with the instrument before it launches.

A. Okay.

Q. And I'm asking about during what time period did you work on Gen 2 or S instruments as a design engineer before they launched?

A. I see. Before IS2000 launched, which was approximately 2005, I was working on S instruments specifically less than a year.

Q. Because Gen 2 or S launched shortly after you joined the design engineering group; is that right?

A. Not -- not accurate. I'm having trouble answering that question because the work on IS1200 dovetailed into IS2000.

Q. Got it. And at some point, what was the next generation of instruments that launched while you were working as a design engineer?

A. So there was a system launch of SI, but the instruments -- the S instruments were the same.

The next instruments that we worked on -- that I was working on were different types of instruments on that same platform.

Q. So just to unpack that, there was a system launch of SI at some point; is that right?

A. Correct.

Q. And approximately when was that system launch?

A. Approximately 2008.

Q. And at the time of that launch, the instruments used with the SI were the same as the S instruments?

A. Correct.

Q. At some point was there an update to the instruments used with the SI system?

MS. CAHOY: Objection to form.

THE WITNESS: Please rephrase the question or repeat the question, please.

BY MR. VAN HOVEN:

Q. Sure. At some point after the launch of the SI system, was there an update to the -- to the instruments from the original S instruments that were used with that system?

A. Not specifically.

Q. Is there a generation or a group of

instruments labeled as IS3000?

A. There is.

Q. What are IS3000 instruments?

A. So when we launched the SI platform, which is a system release, they were designated as IS3000. There was some instruments that were only compatible, newly -- new instruments, new instrument types that were only compatible with that 3000 generation.

Q. Got it. So there were some instruments that were essentially IS2000 instruments that would work with the new SI system; is that right?

A. Correct.

Q. And those were relabeled as IS3000 for purposes of sale with the SI system?

MS. CAHOY: Objection to form.

THE WITNESS: Can you -- can you rephrase the question? I don't understand the question.

BY MR. VAN HOVEN:

Q. What don't you understand about the question?

A. You mentioned relabeling, were they relabeled --

Q. Oh, okay. Got it. So I don't mean a physical label on the product. I'm talking about the name as IS2000 or IS3000.

Does that distinction make sense to you,

those product names?

A. The instruments themselves were not renamed, or they weren't changed at all. They were just compatible with the 3000 generation.

Q. And I guess for those -- the ones that previously worked with the S system, the set of instruments that previously worked with the S system, that would also be used in the SI system; correct?

A. Can you say that one more time? Sorry.

Q. Yeah. There was a set of instruments that were previously used with the IS2000 or S system.

A. Okay.

Q. And that were also then used with the IS3000 or SI system; correct?

A. That's correct.

Q. Were the instruments -- I guess even though they -- so those instruments were the same physically; correct?

A. That's correct.

Q. And I'm just asking were the -- for purposes of use with the SI or IS3000 systems, were those instruments referred to as IS3000 instruments, or were they still called IS2000 instruments?

A. They were both. So they're still referred to as IS2000 instruments internally. We may have changed

their designation to be IS2000/3000.

Q. Got it. And then there was also then a set of instruments that was entirely new for use with the IS3000?

A. That's correct.

Q. And I guess I'd like to talk a little bit about the instruments themselves. Let's start with the IS2000.

A. Okay.

Q. Am I correct that the -- an IS2000 instrument will attach to an arm of an S robot?

A. That's correct.

Q. And it has a number -- I guess four discs that -- on the instrument?

A. There are four input discs on the back end of the instrument.

Q. And those interface with mating parts on the robot?

A. They interface with an adapter accessory component in between the instrument and the system arm.

Q. And the system arm includes motors that, via the adapter and disc, initiate movements within the instrument?

A. That's correct.

A. Yes, that's correct.

Q. And do the yaw and grip inputs -- do cables couple from the input discs to the distal end of the instrument?

A. Can you rephrase that question?

Q. Sure. Is it okay to refer to kind of yaw and grip collectively because they function in a complimentary manner?

A. It depends on what you're talking about, but yes.

Q. And are there -- I guess could you describe for the XI the cables that connect from the yaw and grip input discs to the distal end of the instrument.

A. Okay. So for yaw and grip, they are cable pulley systems. And so the input discs are essentially acting as pulleys. A cable must wrap around those pulleys.

So there's a cable section at the back end, proximal end of the instrument. That then is connected via a hypotube, which is basically a stainless steel, metal tube, for the straight section that -- for the section of cable of the drive train that isn't required to go through a loop. So it's the straight section.

At the distal end, where the cable drive has

to connect through the wrist, there is another section of cable. That cable is routed through the pitch axis joint and then to a series of eyelet pulleys to route the cables through the wrist in a compact manner and then terminates in a way that's constrained to one of the pulleys on the yaw or grip joints.

And then you have a return cable that basically comes back down a similar path back to the other side of the input disc at the back end of the instrument.

Q. Got it. In that -- when we're talking about the cables for the yaw, grip, and roll, is that what's being referred to here as -- in terms of cable failures?

MS. CAHOY: Objection to form.

THE WITNESS: We have cable failures. Some of those cable failures could be the cables that we're discussing. There are other cables in the instrument. So depending on the context.

BY MR. VAN HOVEN:

Q. What other cables are there in the instrument?

MS. CAHOY: Objection to form.

THE WITNESS: For some instruments that have cautery energy capability, we have cables -- or wires

Q. This document states that, "The materials used in the distal portion of the S/SI 8mm instruments are identical to those used in the equivalent versions of the XI 8mm instruments."

Do you see that?

A. I see it.

Q. What are you referring to there?

A. The materials used in the distal portion. So that would refer to the wrist components, the grip components, the pulleys, pins, and cables and (inaudible).

Q. So as of the time of this document in 2016, are you saying that those components in the S and SI are identical to the components in the XI?

MS. CAHOY: Objection to form.

THE WITNESS: I can't recount that offhand off the top of my head.

BY MR. VAN HOVEN:

Q. That's what you were saying in 2016 here?

MS. CAHOY: Objection to form.

THE WITNESS: I'm reading. "Instruments for SI and XI platforms are similar in many regards. The materials used in the distal portion of the S/SI 8mm instruments are identical to those used in the equivalent versions of XI 8mm instruments."

So this statement is referring to the materials.

BY MR. VAN HOVEN:

Q. That those are identical?

A. That's correct.

Q. If we go to the next page, there's a reference to geometric similarities between the S/SI, XI 8mm instruments?

A. I see it.

Q. The next sentence there explains that, "The cable paths through the wrists of the instruments and to the cable attachment points on the various joint output pulleys for yaw, grip, and pitch are designed to be identical."

Do you see that?

A. "Are designed to be identical." I do see that, yes.

Q. What do you mean there?

A. "Cable paths through the wrists of the instruments and to the cable attachment points on the various joint output pulleys for yaw, grip, and pitch are designed to be identical."

Um, that the -- I mean, essentially that statement, the cable paths at the joint at the wrists were designed to be identical.

Q. What does it mean for something to be designed to be identical?

A. The statement here is to speak to cable path.

Q. And that those are designed to be identical as between the S/SI versus the XI?

A. That's correct.

Q. Then finally it talks -- "Although the proximal cable routing through the back end."

Do you see that --

A. I do see that.

Q. -- paragraph?

A. I do.

Q. What's your understanding of what that paragraph was referring to?

A. It speaks to the differences between XI and SI, which are mainly in the cable path in the back end of the instruments.

Q. But by "cable path in the back end," you're talking about the portion of the cable path at the proximal end of the instrument?

A. Yes.

Q. But there are some similarities, including equivalently sized clamping pulley dip -- diameters.

Do you see that?

A. I see that, yes.

Q. What is that referring to?
A. The clamping pulleys are what the cables spool around on the input discs.
Q. And those are equivalently sized between the S/SI and XI?
A. That's correct.
Q. Why is that?
A. It was -- it was the design intent to keep that Q ratio between the input and the output the same.
Q. There's also a reference to idler pulleys that are comparatively sized.
Do you see that?
A. I do.
Q. What is an idler pulley?
A. Sure. An idler pulley is not acting in the drive train gear ratio. It is an idler. Meaning it's there passively, but it's there to re-route the cables for -- to get the cable path onto the important parts of the drive train.
MR. VAN HOVEN: Mr. DuQue, it seems like we've been -- unless you guys want to soldier on through another document, this might be a good time for a 10-minute break.
MS. CAHOY: Yes.